

Appl. No. 10/763472
Amdt. Dated: 8 August 2005
Reply to Office action of July 8, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

(currently amended) Claims: 1-3, 6, 9-11, 13, 15 and 20,
(original) Claims 4, 5, 7, 8, 12, 14 and 16-19

1. (Currently amended) A disc harrow comprising:

- a) a rectangular frame;
- b) a plurality of tool bars attached to said frame;
- c) a plurality of rotatable discs attached to at least one of said tool bars in a manner wherein each of said rotatable discs is independently vertically mounted to one of said tool bars in a staggered non-pivotal manner and wherein the angulations of each said rotatable discs are fixed and not uniformly spaced relative to each other;
- d) a plurality of vertical breaker bars attached to at least one of said tool bars located aft of said discs in a manner whereby one of said breaker bars is located directly behind each of said disc;

e) a plurality of hydraulically retractable wheels attached to at least one of said tool bars; and

f) a towing means attached to said frame.

2. (Currently amended) The disc harrow according to claim 1 wherein said plurality of discs ~~is~~ are arranged in a row perpendicular to ~~the~~ said towing means ~~direction~~ of tow ~~said disc~~ having at least two groups ~~with~~ arranged with adjacent groups facing outwardly in opposite directions from the center of said frame, each said group having a plurality of descending diameter discs at each end of each group, the major diameter of each disc being located on ~~the same~~ a horizontal plane.

3. (Currently amended) The disc harrow according to claim 2 wherein said descending diameter discs have escalating angulations and decreasing spacing between said descending diameter discs.

4. (Original) The disc harrow according to claim 1 wherein said discs further comprise a mounting bracket, a vertical leg, and a rotating means.

5. (Original) The disc harrow according to claim 4 wherein said stagger is achieved by adding a spacer to said mounting bracket.

6. (Currently amended) The disc harrow according to claim 1 wherein at least a portion of said rotatable discs are replaced with fixed non-rotatable half arcs disc having a radius of about half the diameter of a said rotatable disc.
7. (Original) The disc harrow according to claim 1 wherein said plurality of vertical breaker bars is staggered.
8. (Original) The disc harrow according to claim 7 wherein said breaker bars further comprise plow points.
9. (Currently amended) The disc harrow according to claim 1 wherein said disc harrow further comprises a an earth leveler attached to said frame.
10. (Currently amended) The disc harrow according to claim 9 wherein said earth leveler comprises:
- a) a vertically pivoting frame; and
 - b) a plurality of right angle-shaped bars located parallel to and supported by said vertically pivoting frame arranged at acute angles in a herringbone pattern.

11. (Currently amended) The disc harrow according to claim ~~4~~ 10 wherein said ~~disc harrow further~~ earth leveler comprises a smoothing plate attached to said frame.

12. (Original) The disc harrow according to claim 11 wherein said smoothing plate further comprises:

- a) a support frame located aft of and attachable to said disc harrow;
- b) a pivotal biased plate having one edge in contact with soil being disturbed by said disc harrow extending longitudinally across said rectangular frame.

13. (Currently amended) The disc harrow according to claim 1 wherein said disc harrow comprises duplicate disc harrows attached adjacent to each side of said disc harrow.

14. (Original) The disc harrow according to claim 13 wherein said duplicated disc harrows are hydraulically pivotal for transport.

15. (Currently amended) A towed disc harrow ~~of the towable type~~ having a towing direction, retractable wheels and utilizing a rectangular horizontal frame having at least one tool bar attached thereto to which a plurality of independently mounted disc assemblies are attached in a row located perpendicular to ~~the~~ said towing direction ~~of tow~~ and at least one tool bar having a plurality of vertical breaker

bars attached thereto located aft of said independently mounted disc assemblies, the disc assemblies centrally divided into two groups with one group having a fixed angled in one direction and the second group fixed at the opposite angle in a manner typical within the art, the disc harrow further comprising a means for fixedly offsetting every other disc assembly thereby staggering the row of discs, each group of discs further comprising a plurality of descending major diameter discs located at each end of each group with angulations becoming greater as ~~disc~~ disc's major diameters decrease while the spacing between the discs becomes smaller.

16. (Original) The disc harrow according to claim 15 further comprising a tool bar having staggered vertical breaker bars.
17. (Original) The disc harrow according to claim 16 further comprising a leveler having a plurality of right angle bars arranged at acute angles to each other in a herringbone pattern.
18. (Original) The disc harrow according to claim 17 further comprising a biased smoothing plate.
19. (Original) The disc harrow according to claim 15 further comprising non-rotating discs.

20. (Currently amended) The disc harrow according to claim 15 wherein ~~the~~ said major diameters of each said disc are aligned ~~to the same~~ on a horizontal plane.